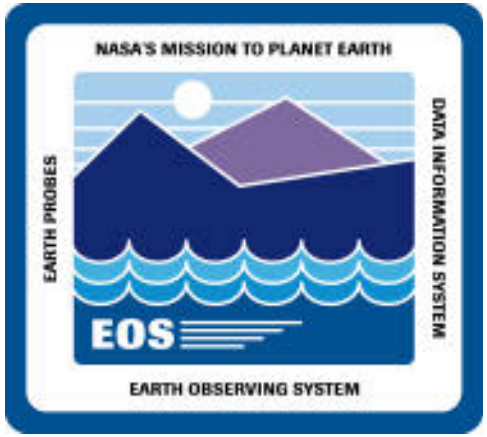

BAAS Design Review

David Johnston

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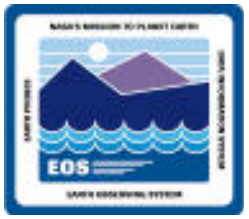
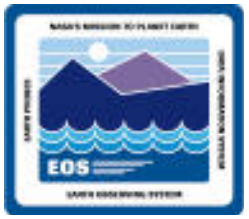
16 April 1996

BAAS Overview



- Introduction
- Driving Requirements
- BAAS Software Design
- MSS/MCI/BAAS Physical Design
- User Interfaces
- Data Model
- OO Design Models

Billing and Accounting (BAAS) Introduction

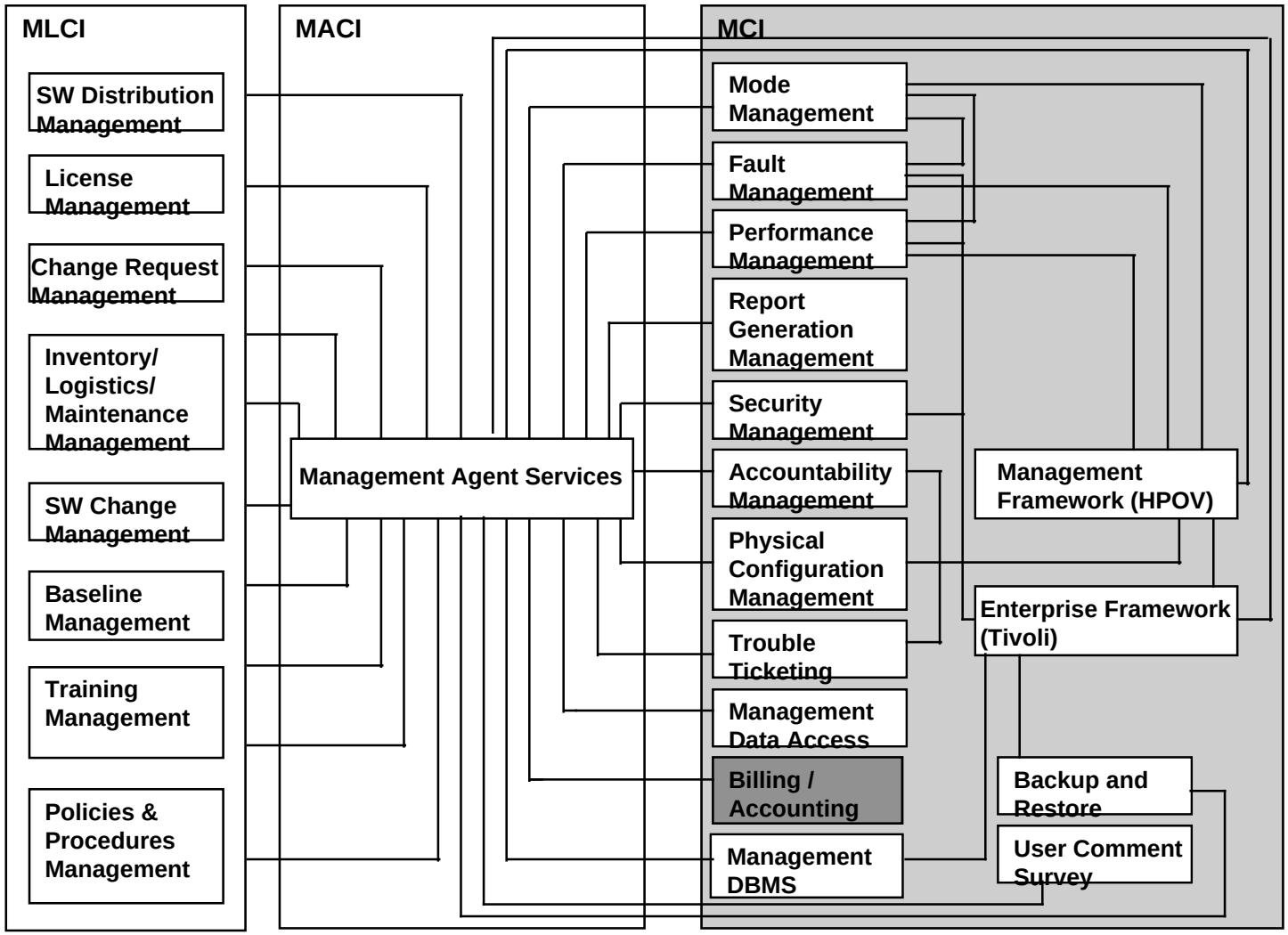


- Over 80 % (98/119) of the L4 Requirements will be satisfied by COTS
- Distributed Accounting Solution will be implemented using COTS with Accounts Receivable processing available at the DAACs
- Scenario primitives developed to satisfy:
  - checking available user balance (from MsUsProfileMgr)
  - support standard price table lookup (EcPriceTable)
  - update available user balance as data product requests are shipped
- Custom code to focus primarily on interface with collecting pricing data (for input to the COTS) , collecting and analyzing cost data (to satisfy cost accounting requirements) and to support other subsystems needs (i.e. scenario primitives)

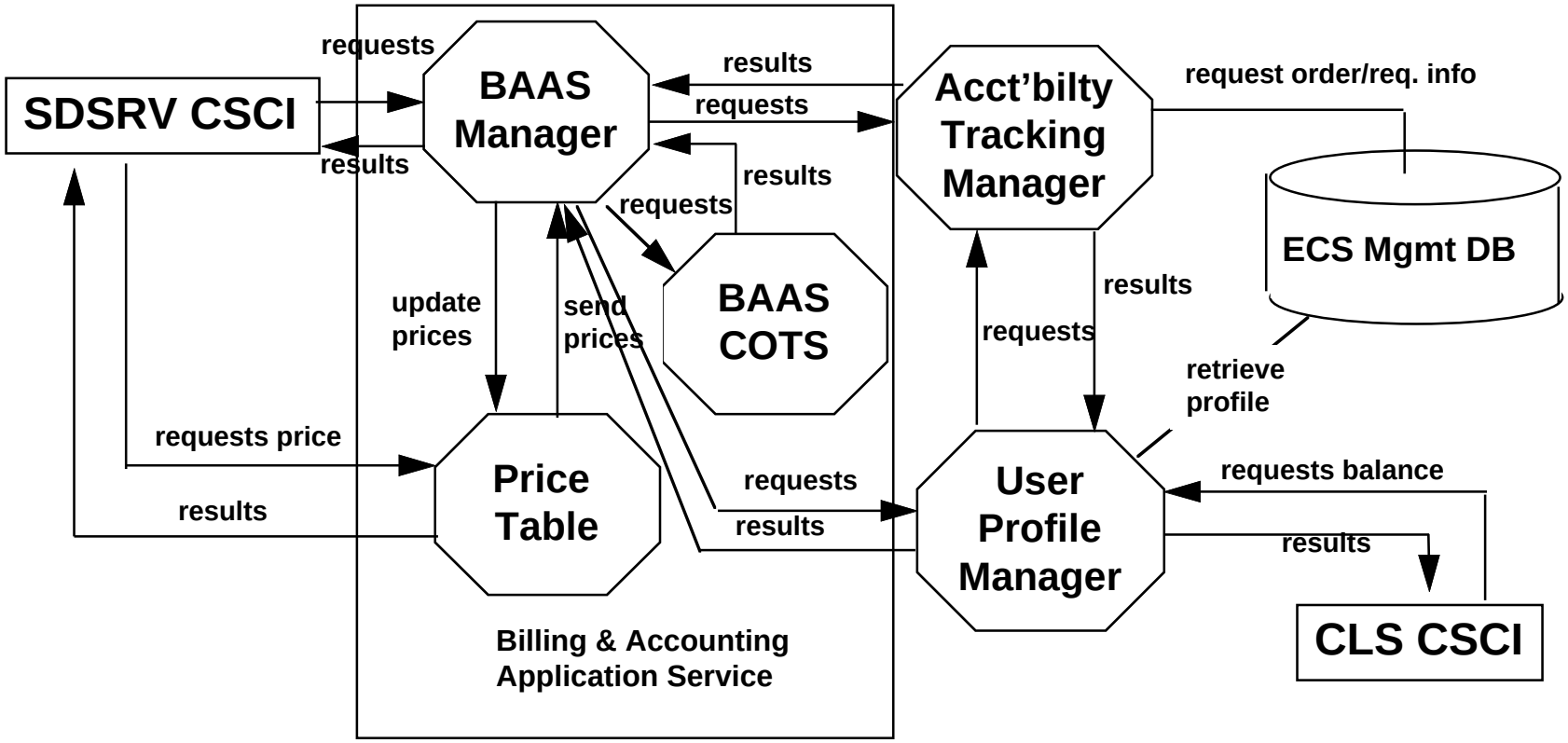
BAAS Driving Requirements

- **General Functional Description:**
  - **The BAAS shall provide the following major functions: billing & invoicing, accounts receivable, accounts payable (deferred until 3rd party contract to purchase consumables ends), collections, general ledger, cost accounting and reporting.**
  - **The BAAS shall be consistent with the Federal Financial Management System Requirements issued by the Joint Financial Management Improvement Program (JFIMP), and adhere to OMB and GAO guidelines set forth in OMB Circular A-127, and GAO Standards Title 2 (Accounting) and Title 3 (Audit), respectively.**
- **Performance Requirements**
  - **The MSS BAAS Billing & Invoicing function shall collect science user data order resource cost information from the ECS Management Database daily.**
- **New Release B Features**
  - **Billing and Accounting is an entirely new feature in Release B**

MSS Software Architecture Overview



BAAS Software Architecture



Note: BAAS Software Architecture taken from DID 305-CD-029-002, Section 6.3.5

User Interface

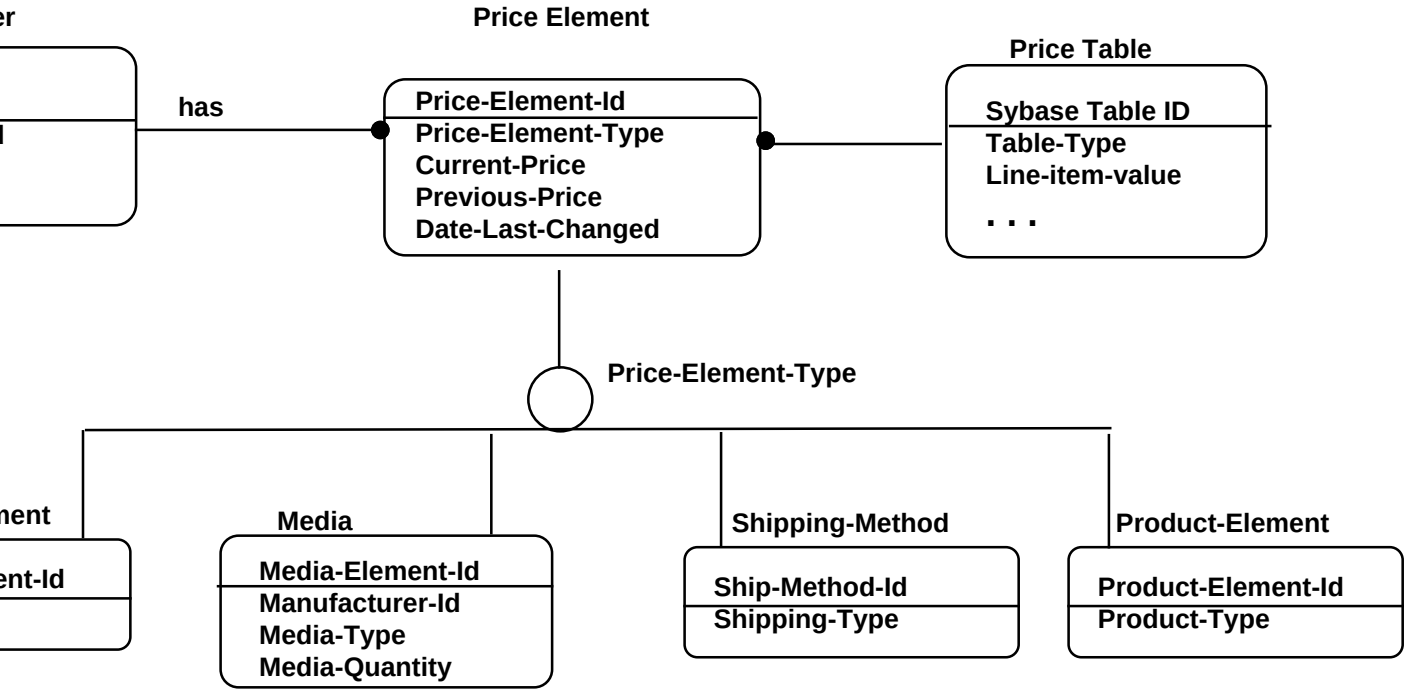
Overview

- **BAAS will use the COTS Windows client interface plus the custom Manager UI to control the BAAS, update the Price Table, retrieve order information, and update accounts.**

- **Operator roles that will interface with the BAAS include:**
  - **User Services Representative**
  - **Billing Clerk**
  - **BAAS Accountant**

- **Access to account information will follow generally accepted accounting principles, and will be designed to ensure data integrity. The COTS and custom code will be able to limit access by ACLs.**

Data Model: Conceptual Schema of Standard ECS Price Table



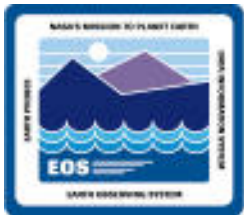
Object Model

The following object models will be reviewed:

Model Name	Diagram Name	Document Ref.
BAAS	Billing_and_Accounting_Object_Model	Figure 6.3-2

Note: OMT Diagram is from DID 305-CD-029-002, Section 6.3

Dynamic Model

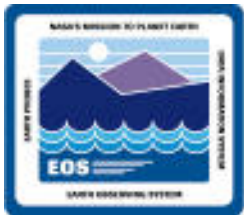


The following event traces will be reviewed:

Diagram Name	Document Reference
Billing_and_Invoicing_a_Science_User	DID 305-CD-029-002
Retrieve_Product_PRC_SP58_B	DID 313-CD-006-002
Update_Entries_In_Price_Table	DID 313-CD-006-002
Update_User_Profile_SP60B	DID 313-CD-006-002

Note: See DID 305-CD-029-002 and DID-313-CD-006-002 for additional event traces.

Event Traces:
Billing_and_Invoicing_a_Science_User_at_CDR



Scenario

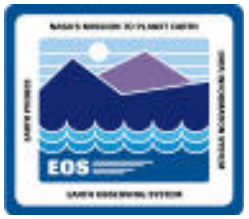
- **This scenario takes place when a science user is billed and invoiced for requesting ECS data products. This scenario traces the events associated with gathering the cost information, generating statements, and posting charges to the appropriate account.**

Assumptions/ Precondition

- **Science User has a valid ECS account**
- **A request has already been generated**
- **Details of the request (including the price estimate and products shipped) have been captured by the methods described in the MSS Accountability MsAcTrackingMgr class.**

Event Traces:

Retrieve_Product_PRC_SP58_B



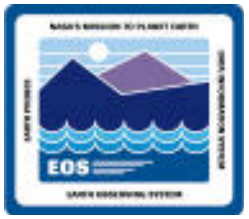
Scenario

- This scenario takes place when a request from the Science Data Server (SDSRV) to estimate the price of a data product is presented to the BAAS by accessing the standard price table. This will be a read only type of operation. This scenario traces the events associated with providing the necessary information so that an accurate price estimate can be obtained.

Assumptions/ Precondition

- The request represents a billable data product.
- If the original request contains multiple billable data products, the request has been broken down into subrequests that can be estimated based on an identifiable, priceable item and tracked by requestId
- In addition to an indentifiable product, any services required to process the product, media type, number of media and shipping method will inserted into a global parameter list and sent with the price estimate request

Event Traces:
Update_Entries_In_Price_Table



Scenario

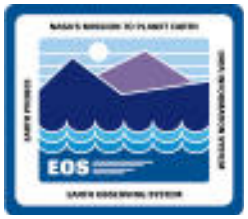
- This scenario shows how a new ECS data product's price determined by an ESDIS level pricing committee is added to the standard price table. A read/write copy of the table, MsBaPriceTableB copied from the public table EcPriceTableB, will be modified by authorized M&O personnel when a new product has been authorized to be added as a billable data product.

Assumptions/ Precondition

- The clerk modifying the price table has proper access.
- The price element Id assigned will be unique.

Event Traces:

Update_User_Profile_SP60B



Scenario

- This scenario shows how a science user's user profile balance is debited for the amount authorized in a pending data product request that has already been priced by the BAAS (see Scenario Primitive SP58B, DID 313-CD-006-002).

Assumptions/ Precondition

- The price of the request is known.
- Sufficient funds exist to honor the completion and delivery of the request.